Thus while the book is still essentially a key to the Fungi in Saccardo, it covers also the Fungi in Rehm's "Discomyceten" and includes the families and genera of the lichens as treated in Engler and Prantl's "Pflanzenfamilien." This treatment of the lichens is in full accord with modern botanical ideas as given in the lecture rooms of our best botanists, and yet we imagine that many a conservative botanist will be somewhat taken aback when he finds how absolutely the line between "fungi" and "lichens" has been obliterated. Thus family 18 is *Sphaeriaceae* ("fungi"); family 19, *Verrucariaceae* ("lichens"); family 20, *Hypocreaceae* ("fungi"); family 21, *Dothidiaceae* ("fungi"); family 22, *Mycoporaceae* ("lichens"), and so on; while family 36, *Caliciaceae,* includes both "fungi" and "lichens."

The "Key to Orders and Families" (pp. 1–6) gives the plan of the book, the principal succession being *Phycomycetes, Ascomycetes, Basidiomycetes* and *Fungi Imperfecti.* The boundaries of the first of these are considerably enlarged by the inclusion of the Bacteria (five families) and the Myxobacteria (one family). In the treatment of the remaining families of *Phycomycetes* they are very properly regarded as degenerated *Chlorophyceae;* so we find brief characterizations of such algal orders as *Protococcales, Spirogyrales, Vaucheriales* and *Confervales.* We imagine that some fungologists of the old school will be distinctly shocked by this close association of fungi and algae. The inclusion of *Uredinales* (*Uredinaceae* and *Ustilaginaceae*) in the *Ascomycetes,* while very acceptable to the writer of this notice, will be frowned upon by many botanists who prefer to regard them as in some way entitled to admission to the *Basidiomycetes.* These examples may serve to show that the author of the book has succeeded in putting into it some of his ideas as to relationship, which must add much to the interest as well as the usefulness of the work, especially in the hands of advanced students.

The "Guide to the Volumes of Saccardo's Sylloge Fungorum" near the end of the book will prove very helpful to every user of the many-volumed work. Likewise the alphabetical index to the families in Saccardo's Sylloge Fungorum, and Rehm's Discomyceten will be of the highest value to the mycological student. Nor must be omit reference to the glossary of Latin and English terms which will help many a student who is rusty in his Latin to "dig out" the descriptions in Saccardo.

In his preface, the author says: "No attempt has been made to revise the genera, except where the treatment had lagged behind current practise, as is particularly true of the lichens." And again: "Questions of nomenclature have necessarily been left largely to one side, but no hesitation has been felt in making certain corrections. These have dealt mostly with mistaken or neglected transliteration, and with faulty composition." Still again, "A considerable number of sesquipedalian words have been shortened and the greater number of hybrid names have been corrected."

The last quotation which we make is one that should be read by every student of the fungi—"The mycologist must have a fair equipment of technical terms, as well as a Latin vocabulary, and the sooner these are acquired the better."

The book must at once become indispensable in every botanical library, and no doubt will be in demand by every mycologist who has access to Saccardo and Rehm. Moreover, it will not take long for the student of the fungi to find that he can identify his fungi so far as genera are concerned, by means of this handy little book.

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Scientific Journals and Articles

The closing (October) number of Volume 10 of the *Transactions of the American Mathematical Society* contains the following papers:

C. N. Moore: "The summability of the developments in Bessel functions, with applications."

G. D. Birkhoff: "Singular points of ordinary linear differential equations."

G. A. Miller: "Automorphisms of order two."

Dunham Jackson: "Resolution into involutory substitutions of the transformations of a non-singular bilinear form into itself."

F. W. Reed: "On singular points in the approximate development of the perturbative function."

Also notes and errata for volumes 8–10, index of the volume and indices by authors and by subjects of volumes 1–10.

THE November number (Volume 16, number 2) of the *Bulletin of the American Mathematical Society* contains: Report of the summer meeting of the society, by F. N. Cole; "The groups which may be generated by two operators s_1, s_2 satisfying the equation $(s_1s_2)^\alpha = (s_2s_1)^\beta$, α and β being relatively prime," by G. A. Miller; "A note on imaginary intersections," by E. W. Davis; "Maurolycus the first discoverer of the principle of mathematical induction," by G. Vacca; "Darwin's scientific papers," by E. W. Brown; "Shorter notices": Burkhardt's Elemente der Differential- und Integralrechnungen, by L. W. Dowling; Von Dantscher's Weierstrassche Theorie der irrationalen Zahlen, by G. A. Miller; Andrews's Magic squares and cubes, by G. A. Miller; d'Adhémar's Exercices et Leçons d'analyse, by Maxime Bôcher; Heger's Analytische Geometrie auf der Kugel, by L. W. Dowling; Borel-Staeckel's Elemente der Mathematik, by Florian Cajori; Love's Mathematical theory of elasticity, by F. R. Sharpe; Manville's Découvertes modernes en Physique, by E. B. Wilson; "Notes"; "New publications."

DELETERIOUS INGREDIENTS OF FOOD[1]

THE Food and Drugs Act, June 30, 1906, states that an article shall be deemed to be adulterated, in the case of food, if it contain any added poisonous or other added deleterious ingredient which may render such article injurious to health. The term food includes "all articles used for food, drink, confectionery or condiment by man or animals, whether simple, mixed or compound." The act does not expressly prescribe what added substances shall be deemed to be poisonous or deleterious, nor does it indicate by what properties they are to be recognized.

At first thought this omission may seem trivial, and specific provision needless, in view of the common knowledge of these matters. More mature consideration, however, leads one to realize that there is no strict definition by which noxious and innocuous substances are differentiated; and accordingly that the recognition of poisonous and deleterious substances is not altogether a simple matter. The situation is relieved somewhat by the fact that the provision applies to added ingredients not foods and not to food itself.

Under the law, then, the question of poisonous or deleterious properties of anything coming within what the law defines as a food need not be considered. Nevertheless, in arriving at standards of the deleterious properties of added ingredients not foods themselves, it is important to consider such properties of foods, since, manifestly, it is not the intent of the law to establish different standards of quality of added ingredients than is possessed by food itself. This is clearly indicated by the statement of the law that food containing deleterious ingredients is to be deemed adulterated because the added ingredient is of such poisonous or deleterious quality as may, by its presence, render the food injurious to health. Hence, if the added ingredient is only capable of becoming deleterious in the sense that food itself is, its addition to food will not render such food injurious to health in the meaning and intent of the law. To illustrate, the addition of spices to food is admitted under the law, because they are foods in the condimental sense. Nevertheless, they are capable of being distinctly deleterious if ingested too liberally, or, in some conditions of disease, if ingested in even the ordinary quantity; that is, their proper use is without deleterious effect, yet they may become injurious by abuse. In the same way, if an added ingredient is not essentially poisonous, but merely capable of becoming deleterious by abuse, it is not a poisonous or deleterious substance in the meaning and intent of the law.

It must not be supposed that this interpretation admits of the addition to food of essen-

[1] Read before the Section of Biology, New York Academy of Sciences, May 10, 1909.